

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

February 10, 2009

TO: Internal File

THRU: Steve Christensen, Environmental Scientist III *SKC*

FROM: Priscilla Burton, CPSSc, Environmental Scientist III *PWB by SOS*

RE: ZZ North Panel (Fee under Consol Control) and Revise Permit and Adjacent Area. Consol Energy Company, Emery Deep Mine, C0150015, Task #3099

SUMMARY:

On December 18, 2008, the Division received an application for full extraction of coal within and planned subsidence above the ZZ North panel, which encompasses 74 acres of surface and coal owned by Consolidation Coal Company. (Full extraction and planned subsidence was previously approved for the 14th and 15th West panels and 8th North Main; 4th E Mains, and the 15th W, 6th W, and Zero North panels and panels 1, 2, 3, and 4 North; 1, 2, 3, 4, and 5 West; 7, 8, 9, 10, 11, 12, and 13 West; 8 South and 5 West Mains.) This application is recommended for approval and incorporation into the MRP.

Perhaps of greater importance is the change being made to the permit area shown on all maps in the application. Consol is converting to the recognized definition of permit area, which is stated in the R645-100 – 200 definitions. The permit area is equivalent to the bonded area. The Permittee is required to bond for acreage of disturbance.

The ZZ North application is recommended for incorporation into the Mining and Reclamation Plan. In the approval cover letter, the Division should remind the Permittee of the commitment found Chap V, pg. 7 of the MRP to provide roof and floor analysis from the ZZ north panel. The following suggestion is not an imperative.

R645-301-121.300, As the Permittee works through this plan making changes on various pages, the outdated UMC code system should also be replaced with R645 references. Updating these UMC references with each revision to the plan will eventually eliminate the need for the Appendix 1-6 cross-reference.

During this review, it was noted that Section II.A facilities description is outdated. The

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Permittee should be notified of this issue so that it can be rectified prior to the next permit renewal.

R645-300-154 and R645-303-232.250, The current permit was issued March 16, 2007 and will expire in March 2012. Chap. I page 8, dated December 2008, states that mining is expected to continue "considerably beyond" the five year permit term. Section II.A of the approved Mining and Reclamation Plan describes a preparation plant (pg. 14). This description was written with the original permit application in September 1990, but has not yet been constructed. This application for revised disturbed area will incorporate the proposed location of this preparation plant, but does not update or revise any plans for its construction. By the time of permit renewal in 2012, will have been pending for twenty-two years. The Right of Renewal only applies to that portion of the permit that is complete and accurate (R645-300-154 and R645-303-232.250). Consol should review Section II.A of the MRP to ensure that it is valid and accurate prior to permit renewal.

TECHNICAL ANALYSIS:

GENERAL CONTENTS

LEGAL DESCRIPTION AND STATUS OF UNSUITABILITY CLAIMS

Regulatory Reference: 30 CFR 778.16; 30 CFR 779.12(a); 30 CFR 779.24(a)(b)(c); R645-300-121.120; R645-301-112.800; R645-300-141; R645-301-115.

Analysis:

The Permit area is being reduced from the existing 5,568 acres (which reflects the current lease area) to 442.5 acres which reflects the operations/disturbed area. A legal description of the revised permit area is provided (Chap IV.A.1).

Ownership of the surface lands is shown on the pre-subsidence survey Appendix V-7, Figure 1 as well as on Plate I-1 Surface Ownership Map.

Findings:

The information provided meets the requirements of the Utah Coal Rules.

PERMIT TERM

Regulatory References: 30 CFR 778.17; R645-301-116.

Analysis:

The current permit was issued March 16, 2007 and will expire in March 2012. Chap. I page 8, dated December 2008, states that mining is expected to continue "considerably beyond" the five year permit term. Section II.A of the approved Mining and Reclamation Plan describes a preparation plant (pg. 14). This description was written with the original permit application in September 1990, but has never been constructed . This application for revised disturbed area will incorporate the proposed location of this preparation plant, but does not update or revise any plans for its construction. By the time of permit renewal in 2012, will have been pending for twenty-two years. The Right of Renewal only applies to that portion of the permit that is complete and accurate (R645-300-154 and R645-303-232.250). Consol should review Section II.A of the MRP to ensure its accuracy prior to permit renewal.

Findings:

The Task 3099 ZZ north application is recommended for incorporation into the Mining and Reclamation Plan.

The issue identified below is not intended to delay approval of the ZZ North, but was noted during this review. The Permittee should be notified of this issue so that it can be rectified prior to permit renewal in 2012.

R645-300-154 and R645-303-232.250, The current permit was issued March 16, 2007 and will expire in March 2012. Chap. I page 8, dated December 2008, states that mining is expected to continue "considerably beyond" the five year permit term. Section II.A of the approved Mining and Reclamation Plan describes a preparation plant (pg. 14). This description was written with the original permit application in September 1990, but has not yet been constructed . This application for revised disturbed area will incorporate the proposed location of this preparation plant, but does not update or revise any plans for its construction. By the time of permit renewal in 2012, will have been pending for twenty-two years. The Right of Renewal only applies to that portion of the permit that is complete and accurate (R645-300-154 and R645-303-232.250). Consol should review Section II.A of the MRP to ensure that it is valid and accurate prior to permit renewal.

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PERMIT APPLICATION FORMAT AND CONTENTS

Regulatory Reference: 30 CFR 777.11; R645-301-120.

Analysis:

With this permit area definition change, the Permittee is making changes on numerous pages in the MRP. As the Permittee works through this plan making changes on various pages, the outdated UMC code system should also be replaced with R645 references. Updating these UMC references with each revision to the plan will eventually eliminate the need for the Appendix 1-6 cross-reference.

Findings:

The Task 3099 ZZ north application is recommended for incorporation into the Mining and Reclamation Plan. The following suggestion is not an imperative.

R645-301-121.300, As the Permittee works through this plan making changes on various pages, the outdated UMC code system should also be replaced with R645 references. Updating these UMC references with each revision to the plan will eventually eliminate the need for the Appendix 1-6 cross-reference.

ENVIRONMENTAL RESOURCES

PERMIT AREA

Regulatory Requirements: 30 CFR 783.12; R645-301-521.

Analysis:

Findings:

SOILS RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.21; 30 CFR 817.22; 30 CFR 817.200(c); 30 CFR 823; R645-301-220; R645-301-411.

Analysis:

No change to existing MRP.

Findings:

No change to existing TA.

LAND-USE RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.22; R645-301-411.

Analysis:

No change to existing MRP.

Findings:

No change to existing TA.

PRIME FARMLAND

Regulatory Reference: 30 CFR 785.16, 823; R645-301-221, -302-270.

Analysis:

The Division's 1985 Technical Analysis for the Emery Mine found that prime farmlands exist in Sections 20, 22, 29, 30 and 31 of T22S, R6E on the surface above the full extraction area (see February 25, 1985, Technical Analysis, p 41). The Important Farmlands of Parts of Carbon, Emery, Grand, and Sevier Counties. 1981. Utah Ag Exp Sta Res Rpt No. 76 confirms that finding.

These farmland locations were shown on Plate 8-3 of the 1981 permit application. Plate 8-3 showed the 4th East Portal location as being Wildlife and Grazing with pasture land immediately north of the disturbed area. Plate 8-3 has been superceded by Plate VIII-1.

On November 4, 2005, the Division found that there were prime farmlands within the permit area, specifically flood irrigated and specially managed agricultural land in Sections 8 - 11, 13 - 17, 19 - 23, and 28 - 32 of T. 22 S. R. 6 E. Salt Lake Meridian, but not within the area of 4th East Portal development, NE1/4 of Section 27, T. 22 S. R. 6 E. Salt Lake Meridian.

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Findings:

The Division finds that there are prime farmlands within the permit area, in Sections 8 - 11, 13 - 17, 19 - 23, and 28 - 32 of T. 22 S. R. 6 E. Salt Lake Meridian.

OPERATION PLAN

TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-230.

Analysis:

Topsoil Removal and Storage

No change to existing MRP.

Findings:

No change to existing TA.

SUBSIDENCE CONTROL PLAN

Regulatory Reference: 30 CFR 784.20, 817.121, 817.122; R645-301-521, -301-525, -301-731.

Analysis:

Subsidence Control Plan

Plate V-5 shows the mining panels. The Important Farmlands of Parts of Carbon, Emery, Grand, and Sevier Counties. 1981. Utah Ag Exp Sta Res Rpt No. 76 indicates that the irrigated cropland above the First North, 3rd, 4th, 6th, and 14th West panels is prime farmland. Plate VIII-1 Vegetation and Landuse Map outlines the areas of dry and irrigated pastureland and meadow. Plate VIII-1 illustrates the area of full extraction beneath these agricultural lands. Plate VIII-1 provides a figure for the number of agricultural lands on the surface within the lease area.

In accordance with R645-301-525.110, the Permittee has provided a pre-subsidence survey, Appendix V-7, with a map (Figure 1) showing the location or renewable resource lands, and narrative describing the potential for material damage or diminished value of the renewable

resource lands. Appendix V-7 itemizes the importance structures that may be affected by subsidence as power lines, water mains, and a paved road.

Roads are labeled and other features are shown on Appendix V-7 Figure 1 and Plate V-5. The Permittee has notified the County and has obtained an agreement for subsidence mitigation with the County. Chapter V, page 40 confirms that the required pre-subsidence landowner notification letters to landowners and irrigation companies were sent and are on file with the Division.

The federal coal in lease U5287 (issued 1971) encompasses approximately 450 – 500 acres as shown on Plate IV-2 UG Operations Plan and VI-6A Historic and Planned Mining Sequence. Planned subsidence, as a result of full extraction is shown on Plate V-5 and includes a general lowering of the land by three feet. Several surface owners (Odle, Staley, Carter, D.U. Company, and Byers) are producing hay crops on this land. Irrigation ditches lying immediately above the expected subsidence area were surveyed (Appendix V-7, Table 1). There is a commitment in the plan to repair ditches if water flow is diminished or lost due to subsidence.

Figure XIII-1a shows that within the 160 acre 1st North federal lease, there are approximately 50 acres of prime farmland soils, that is one-third of the soil is prime farmland, if irrigated. Communication with the NRCS on December 12, 2006, confirms that there are approximately forty-eight irrigated acres within the First North federal lease at this time.

Zero North panel in federal lease U-50044 runs beneath Consol owned rangeland surface. The irrigation ditches that are currently in disrepair, as described in App. V-7, attest to the fact that this land was historically farmed and irrigated.

The 6th West panel in federal lease U-50044 runs beneath 9.1 acres of a larger, irrigated D.U. Company field and County Road 915 as well as Consol owned rangeland surface, County Road 915, and a power line (App. V-5, Pre-Subsidence Survey and Plate I-1).

The 4th East Mains parallels Christiansen Wash and is beneath Consol surface and County Road 907 and a power line.

- Appendix V-4 states that there are 24 acres of irrigated cropland within the 132 acre area surveyed in April 2007. Figure V-4 Figure 1 provided with the April 2007 survey does not indicate the location of the 24 acres of cropland, however, Figure 1 and 2 included in Appendix VIII-3 indicate the location of cropland.

- Appendix V-5 Figure 1 provides a pre-subsidence survey for the 4 East Mains, 6th West and 0 North.

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- The 2008 survey in Appendix V-7, provides a pre-subsidence survey for the 6 to 12 West panels and the L-0 to L-4 panels. This survey describes Features 72 as the primary irrigation ditch. A pond supplies irrigation water to 80 acres belonging to Staley (described in Feature 110) above panels 8 – 12 West. The main supply ditch for the L-0 through L-4 panels is far to the north out of the subsidence zone (shown on Plate VI-3).
- Plate VI-3 shows the location of irrigated land.
- Previous communication with the NRCS confirms the designation of Penoyer soils as prime farmland in the fee portion of the 1st North IBC. (see App XII-1). Recent mapping by the NRCS has determined that the soils having potential for prime farmland within the IBC are Minchey loam, Penoyer loam, Ravola loam, and Tusher fine sandy loam, when irrigated.
- Subsidence movement between 3 and 10 ft is projected with the area shown on Plate V-5. Ground movement will be monitored (Sec V.B.1).

Findings:

The information provided meets the requirements of the Renewable Resource Survey, R645-301-525.110.

GEOLOGIC RESOURCE INFORMATION

Regulatory Reference: 30 CFR 784.22; R645-301-623, -301-724.

Analysis:

Chapter V.A. 4 of the MRP describes roof and floor analyses.

Chapter V.A. 4 contains the 2007 analysis of the 1st North roof and Zero North floor, representing federal lease U-50044. According to the cover letter provided with Task 2951, the samples were in different panels, but were 200 ft. apart. Samples were analyzed by Geochemical Testing, David Glessner, Laboratory Manager. Electrical Conductivity and SAR analyses were not conducted and no sample remains to conduct those tests.

The 2007 1st north roof sample is potentially acid forming, due to concentrations of pyrite and virtually no neutralizing, carbonate content. The pH was 6.4. No analysis of SAR or EC was provided.

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The Zero North floor sample did not have much more carbonate than the 1st north roof sample, but it had significantly less pyritic sulfur and is therefore less likely to produce acid. The pH of the floor was 6.9. No analysis of SAR or EC was provided.

Since we have limited roof and floor analysis available and are missing several parameters from those samples that we do have, further geologic testing will be made available as mining progresses as stated in Chapter V, page 7 (and as per personal communication with John Gefferth, 3/31/2008 and again on January 14, 2009).

The Permittee must provide roof and floor analysis from the ZZ north panel.

Findings:

The Task 3099 ZZ north application is recommended for incorporation into the Mining and Reclamation Plan.

The issue identified below is not intended to delay approval of the ZZ North, but was noted during this review.

R645-301-624.320, Please provide roof and floor analysis from the ZZ north panel in accordance with this rule and commitments found Chap V, pg. 7 of the MRP.

RECLAMATION PLAN

GENERAL REQUIREMENTS

Regulatory Reference: PL 95-87 Sec. 515 and 516; 30 CFR Sec. 784.13, 784.14, 784.15, 784.16, 784.17, 784.18, 784.19, 784.20, 784.21, 784.22, 784.23, 784.24, 784.25, 784.26; R645-301-231, -301-233, -301-322, -301-323, -301-331, -301-333, -301-341, -301-342, -301-411, -301-412, -301-422, -301-512, -301-513, -301-521, -301-522, -301-525, -301-526, -301-527, -301-528, -301-529, -301-531, -301-533, -301-534, -301-536, -301-537, -301-542, -301-623, -301-624, -301-625, -301-626, -301-631, -301-632, -301-731, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-732, -301-733, -301-746, -301-764, -301-830.

Analysis:

No change to existing MRP.

Findings:

No change to existing TA.

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CUMULATIVE HYDROLOGIC IMPACT ASSESSMENT (CHIA)

Regulatory Reference: 30 CFR Sec. 784.14; R645-301-730.

Analysis:

The 14th West, 6th West and 1st North areas are shown as Prime Farmland in Important Farmlands of Parts of Carbon, Emery, Grand, and Sevier Counties. 1981. Utah Ag Exp Sta Res Rpt No. 76. Consequently the PHC must consider the effect of undermining on irrigated renewable resource lands.

Findings:

A statement of renewable resource lands has been provided with the application. The Cumulative Hydrologic Impact of mining beneath agricultural lands will be assessed by the Division.

RECOMMENDATIONS:

The ZZ North application is recommended for incorporation into the Mining and Reclamation Plan. During this review, it was noted that the UMC references throughout the MRP are also outdated and should be replaced by R645 references and that the Section II.A facilities description is also outdated, both issues should be rectified.